

What is claimed is:

1. ~~A cargo handling vehicle comprising:~~

- a cargo carrier for carrying a cargo thereon;
- a lift unit for raising and/or lowering the cargo carrier;
- a vehicle main body for moving the lift unit forward and backward;
- a lift height detecting section for detecting the vertical position of the cargo carrier;
- a traveling distance measuring section for measuring a forward distance moved by the vehicle main body;
- a measurement start indication section for starting the measurement of the traveling distance measuring section when the lift unit moves in the forward direction after the height of the cargo carrier is not less than a predetermined height and the lift unit stops during a predetermined period; and
- a movement control section for prohibiting the lowering movement of the cargo carrier until a rearward distance moved by the vehicle main body is not more than a predetermined value after the measurement start indication section starts the measurement.

2. The cargo handling vehicle as claimed in claim 1, wherein the traveling distance measuring section is an up-down counter for up-counting the forward distance moved by the lift unit, and down-counting the rearward distance moved thereby;

the traveling distance measuring section has a counter  
for indicating the traveling distance of the lift unit; and

the movement control section prohibits the lowering  
movement of the cargo carrier until the value of the counter  
is not more than 0.

3. The cargo handling vehicle as claimed in claim 1,  
wherein the movement control section allows lowering the cargo  
carrier by the lift unit within a predetermined range, and  
prohibits lowering the cargo carrier below the predetermined  
range.

4. A cargo handling vehicle comprising:

~~a cargo carrier for carrying a cargo thereon;~~  
a lift unit for raising and/or lowering the cargo carrier;  
a vehicle main body for moving the lift unit forward and backward;

a traveling distance measuring section for measuring a forward distance moved by the vehicle main body;

a measurement start indication section for starting the measurement of the traveling distance measuring section; and

a movement control section for prohibiting the lowering movement of the cargo carrier until the measured value of the traveling distance measuring section becomes an initial value after the measurement start indication section starts to operate.

5. The cargo handling vehicle as claimed in claim 4, wherein the traveling distance measuring section is an up-down counter for up-counting the forward distance moved by the lift unit, and down-counting the rearward distance moved thereby;

the traveling distance measuring section has a counter for indicating the traveling distance of the lift unit; and

the movement control section prohibits the lowering movement of the cargo carrier until the value of the counter is not more than 0.

6. The cargo handling vehicle as claimed in claim 4,  
wherein the movement control section allows lowering the cargo  
carrier by the lift unit within a predetermined range, and  
prohibits lowering the cargo carrier below the predetermined  
range.

7. The cargo handling vehicle as claimed in claim 4,  
wherein the movement control section forcibly stops lowering  
the cargo carrier.

8. A cargo handling vehicle comprising:

a cargo carrier for carrying a cargo thereon;  
a lift unit for raising and/or lowering the cargo carrier;  
a vehicle main body for moving the lift unit forward and backward;

a cargo detection section for detecting the cargo on the cargo carrier;

a lift height detecting section for detecting the vertical position of the cargo carrier;

a traveling distance measuring section for measuring a forward distance moved by the vehicle main body;

a measurement start indication section for starting the measurement of the traveling distance measuring section when the detection results of the cargo detection section is changed after the lift height detecting section detects that the height of the cargo carrier is not less than a predetermined height; and

a movement control section for prohibiting the lowering movement of the cargo carrier until the measured value of the traveling distance measuring section is not more than a predetermined value after the measurement start indication section starts the measurement.

9. The cargo handling vehicle as claimed in claim 8, wherein the movement control section allows lowering the cargo

carrier by the lift unit within a predetermined range, and  
~~prohibits lowering the cargo carrier below the predetermined~~  
range.

10. The cargo handling vehicle as claimed in claim 8,  
wherein the movement control section forcibly stops lowering  
the cargo carrier.

0987995-061401

11. A cargo handling vehicle comprising:

~~a cargo carrier for carrying a cargo thereon;~~  
a lift unit for raising and/or lowering the cargo carrier;  
a vehicle main body for moving the lift unit forward and backward;

a lift height detecting section for detecting the vertical position of the cargo carrier;

a traveling distance measuring section for measuring a forward distance moved by the vehicle main body;

a measurement start indication section for starting the measurement of the traveling distance measuring section when the lift unit moves in the forward direction not less than a predetermined distance after the height of the cargo carrier is not less than a predetermined height, and then the cargo carrier moves up and down within a predetermined range, and then the lift unit starts to move backward; and

a movement control section for prohibiting the lowering movement of the cargo carrier until the measured value of the traveling distance measuring section is not more than a predetermined value after the measurement start indication section starts the measurement.

12. The cargo handling vehicle as claimed in claim 11, wherein the movement control section allows lowering the cargo carrier by the lift unit within the predetermined range, and

prohibits lowering the cargo carrier below the predetermined  
range.

13. The cargo handling vehicle as claimed in claim 11,  
wherein the movement control section forcibly stops lowering  
the cargo carrier.

09879995-061401  
TCTT90" 56662860



14. A cargo handling vehicle comprising:

- ~~a cargo carrier for carrying a cargo thereon;~~
- a lift unit for raising and/or lowering the cargo carrier;
- a vehicle main body for moving the lift unit forward and backward;
- a cargo detection section for detecting the cargo on the cargo carrier;
- a traveling distance measuring section for measuring a rearward distance of the lift unit moved by the vehicle main body;
- a measurement start indication switch for starting the measurement of the traveling distance measuring section; and
- a rearward movement control section for stopping the rearward movement of the vehicle main body when the measured value of the traveling distance measuring section reaches a predetermined value.

15. The cargo handling vehicle as claimed in claim 14, further comprising a movement control section for prohibiting lowering the cargo carrier by the lift unit until the measured value of the traveling distance measuring section reaches a predetermined value.

16. The cargo handling vehicle as claimed in claim 14, wherein the movement control section forcibly stops lowering

the cargo carrier.

FOI 90" 56662860

17. A cargo handling vehicle comprising:

- ~~a cargo carrier for carrying a cargo thereon;~~
- a lift unit for raising and/or lowering the cargo carrier;
- a vehicle main body for moving the lift unit forward and backward;
- a cargo detection section for detecting the cargo on the cargo carrier;
- a traveling distance measuring section for measuring a rearward distance of the lift unit moved by the vehicle main body;
- a measurement start indication switch for starting the measurement of the traveling distance measuring section; and
- an alarm section for put out an alarm when the measured value of the traveling distance measuring section reaches a predetermined value.

18. The cargo handling vehicle as claimed in claim 17, further comprising a movement control section for prohibiting lowering the cargo carrier by the lift unit until the measured value of the traveling distance measuring section reaches a predetermined value.

19. The cargo handling vehicle as claimed in claim 17, wherein the movement control section forcibly stops lowering the cargo carrier.

20. A cargo handling vehicle comprising:

- ~~a cargo carrier for carrying a cargo thereon;~~
- a lift unit for raising and/or lowering the cargo carrier;
- a vehicle main body for moving the lift unit forward and backward;
- a cargo detection section for detecting the cargo on the cargo carrier;
- a traveling distance measuring section for measuring a rearward distance of the lift unit moved by the vehicle main body;
- a measurement start indication switch for starting the measurement of the traveling distance measuring section;
- a rearward movement start section for automatically starting the lift unit to move backward by operating the measurement start indication switch; and
- a rearward movement control section for stopping the rearward movement of the vehicle main body when the measured value of the traveling distance measuring section reaches a predetermined value.

21. The cargo handling vehicle as claimed in claim 20, further comprising a movement control section for prohibiting lowering the cargo carrier by the lift unit until the measured value of the traveling distance measuring section reaches a predetermined value.

22. — The cargo handling vehicle as claimed in claim 20,  
wherein the movement control section forcibly stops lowering  
the cargo carrier.

23. A cargo handling vehicle comprising:

- ~~a cargo carrier for carrying a cargo thereon;~~
- a lift unit for raising and/or lowering the cargo carrier;
- a vehicle main body for moving the lift unit forward and backward;
- a cargo detection section for detecting the cargo on the cargo carrier;
- a traveling distance measuring section for measuring a rearward distance of the lift unit moved by the vehicle main body;
- a measurement start indication switch for starting the measurement of the traveling distance measuring section;
- a rearward movement start section for automatically starting the lift unit to move backward by operating the measurement start indication switch; and
- an alarm section for put out an alarm when the measured value of the traveling distance measuring section reaches a predetermined value.

24. The cargo handling vehicle as claimed in claim 23, further comprising a movement control section for prohibiting lowering the cargo carrier by the lift unit until the measured value of the traveling distance measuring section reaches a predetermined value.

25. The cargo handling vehicle as claimed in claim 24,  
— wherein the movement control section forcibly stops lowering —  
the cargo carrier.

09879995 061401  
T04T90" 56662860

26. A cargo handling vehicle comprising:

~~a cargo carrier for carrying a cargo thereon;~~  
a lift unit for raising and/or lowering the cargo carrier;  
a vehicle main body for moving the lift unit forward and backward;

a traveling distance measuring section for measuring a rearward distance of the lift unit moved by the vehicle main body;

a measurement start indication switch for starting the measurement of the traveling distance measuring section;

a automatic lowering section for automatically lowering the cargo carrier by the lift unit when the measured value of the traveling distance measuring section reaches a predetermined value.

27. The cargo handling vehicle as claimed in claim 26, further comprising an operation lever for operating the lift unit to lift the cargo carrier up and down,

wherein the measurement start indication switch is provided on a knob of the operation lever.

28. The cargo handling vehicle as claimed in claim 26, wherein the vehicle main body is a forklift truck, and the cargo carrier is a fork supporting the cargo mounted on a pallet;  
the lift unit comprises a mast for supporting the fork



to be guided in the upper and lower directions, and a lift driving  
~~device for lifting the fork up and down along with the mast;~~  
and

the traveling distance measuring section is a measuring  
instrument for measuring the rearward distance that the forklift  
truck moves.

29. The cargo handling vehicle as claimed in claim 26,  
wherein the vehicle main body is a reach forklift truck, and  
the cargo carrier is a fork supporting the cargo mounted on  
a pallet;

the lift unit comprises a mast for supporting the fork  
to be guided in the upper and lower directions, and a lift driving  
device for lifting the fork up and down along with the mast;

the reach forklift truck comprises a straddle arm for  
supporting the mast to be guided in the forward and backward  
direction, and a reach drive unit for moving the mast in the  
forward and backward direction along with the straddle arm;  
and

the traveling distance measuring section is a measuring  
instrument for measuring the rearward distance of the mast along  
with the straddle arm.

30. A reach forklift truck comprising:

~~a mast;~~

a fork for carrying a cargo thereon;

a lift unit for raising and/or lowering the fork along with the mast;

a straddle arm;

a reach device moving the lift unit in the forward and rearward direction along with the straddle arm;

a vehicle main body having a tire for running the reach forklift truck;

a lift height detecting section for detecting the vertical position of the cargo carrier;

a lift unit traveling distance measuring section for measuring a forward distance of the lift unit moved by the reach device;

a measurement start indication switch for starting the measurement of the lift unit traveling distance measuring section; and

a movement control section for prohibiting the lowering movement of the cargo carrier until the measured value of the lift unit traveling distance measuring section is equal to or below a predetermined value when the height of the fork measured by the lift height detecting section is equal to or above a predetermined height.

31. The reach forklift truck as claimed in claim 30,  
wherein the movement-control section allows lowering the cargo  
carrier by the lift unit within a predetermined range, and  
prohibits lowering the cargo carrier below the predetermined  
range.

FOI 90" 5666/860

09879995-061401

32. A reach forklift truck comprising:

- ~~a mast;~~
- a fork for carrying a cargo thereon;
- a lift unit for raising and/or lowering the fork along with the mast;
- a straddle arm;
- a reach device moving the lift unit in the forward and rearward direction along with the straddle arm;
- a vehicle main body having a tire for running the reach forklift truck;
- a lift unit traveling distance measuring section for measuring a forward distance of the lift unit moved by the reach device;
- a vehicle body traveling distance measuring section for measuring a forward distance of the vehicle main body moved;
- a measurement start indication switch for starting the measurement of the lift unit traveling distance measuring section and the vehicle body traveling distance measuring section;
- an adder for adding the measured distances of the lift unit traveling distance measuring section and the vehicle body traveling distance measuring section to output an added value;
- and
- a movement control section for prohibiting the lowering movement of the cargo carrier until the added value of the lift

unit traveling distance measuring section and the vehicle body  
~~traveling distance measuring section is equal to or below a~~  
predetermined value.

33. The reach forklift truck as claimed in claim 32,  
further comprising:

a lowering start indication section for controlling the  
lift unit to automatically lower the fork when the added value  
thereof is not more than the predetermined value; and

a lowering reservation switch for operating the lowering  
start indication section.

34. The reach forklift truck as claimed in claim 32,  
further comprising a vehicle automatic stop section for  
automatically stopping the rearward movement of the vehicle  
main body when the added value thereof is not more than the  
predetermined value.

09879995-1061401

35. A reach forklift truck comprising:

- a mast;
- a fork for carrying a cargo thereon;
- a lift unit for raising and/or lowering the fork along with the mast;
- a straddle arm;
- a reach device moving the lift unit in the forward and rearward direction along with the straddle arm;
- a vehicle main body having a tire for running the reach forklift truck;
- a lift height detecting section for detecting the vertical position of the cargo carrier;
- a lift unit traveling distance measuring section for measuring a forward distance of the lift unit moved by the reach device;
- a vehicle body traveling distance measuring section for measuring a forward distance of the vehicle main body moved;
- an adder for adding the measured distances of the lift unit traveling distance measuring section and the vehicle body traveling distance measuring section to output an added value;
- a measurement start indication section for starting the measurement of the lift unit traveling distance measuring section and the vehicle body traveling distance measuring section when the lift unit starts to move backward after the reach device moves the lift unit forward under the condition

that the height of the fork measured by the lift height detecting section is equal to or above the a predetermined height; and

a movement control section for prohibiting the lowering movement of the cargo carrier until the added value of the lift unit traveling distance measuring section and the vehicle body traveling distance measuring section is equal to or below a predetermined value.

36. The reach forklift truck as claimed in claim 35, further comprising:

a lowering start indication section for controlling the lift unit to automatically lower the fork when the added value thereof is not more than the predetermined value; and

a lowering reservation switch for operating the lowering start indication section.

37. The reach forklift truck as claimed in claim 35, further comprising a vehicle automatic stop section for automatically stopping the rearward movement of the vehicle main body when the added value thereof is not more than the predetermined value.

38. A forklift truck comprising:

~~a fork for carrying a cargo thereon;~~

a mast inclinably supporting the fork;

a lift unit for raising and/or lowering the fork;

a vehicle main body for moving the lift unit forward and backward;

an inclination detection unit for detecting an inclination of the fork; and

a lowering prohibiting section for prohibiting the lowering movement of the fork by the lift unit if the inclination detection unit detects the fork inclined more than a predetermined angle.

39. The forklift truck as claimed in claim 38, further comprising a lift height detecting section for detecting the vertical position of the cargo carrier,

wherein the lowering prohibiting section prohibits the lowering movement of the fork if the height of the fork is equal to or above a predetermined height.

40. The forklift truck as claimed in claim 38, further comprising a vehicle body stop section for stopping the forward or backward movement if the inclination detection unit detects the fork inclined more than the predetermined angle.

not in P  
spec.